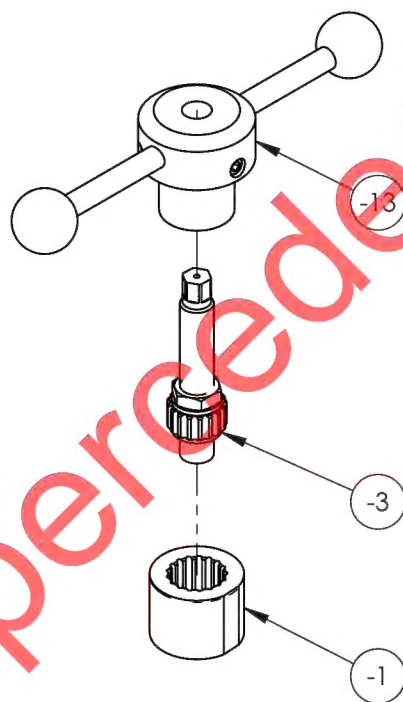
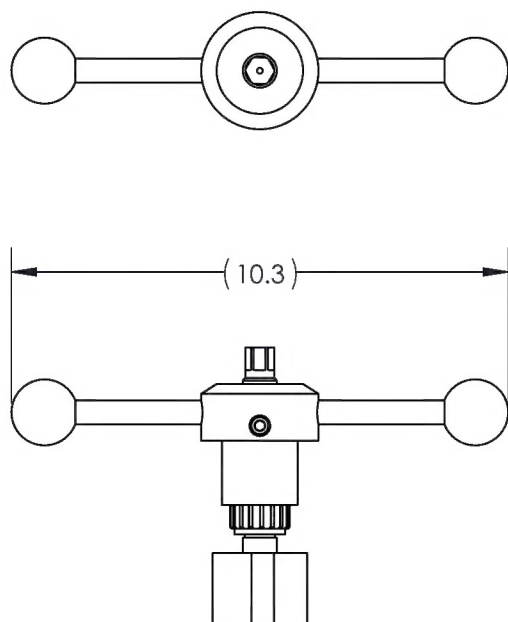


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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-5 CH'D DIMS WAS 3.120 IS 3.175, WAS Ø.77 IS Ø.75. ADDED MISSING DIM .050.	4/9/2014	DPD	GE
2	16-0065	-1, -7 & -17 CH'D MATERIAL WAS 4140 Q&T IS 4140/4142 Q&T. -5 CH'D MATERIAL WAS 4140 Q&T, IS 4140/4142 HEAT TREATED TO RC 48-55. -9 CH'D MATERIAL WAS 4140, IS 4140/4142 Q&T. -11 CH'D MATERIAL WAS HEX 4140 Q&T, IS 4140/4142 Q&T. -1, -5, -7, -9, -11, -15 & -17 CH'D FINISH WAS CAD PLATE YELLOW IS ZINC PLATE, SPEC. ASTM B633 TYPE I SC2. -19 CORRECTED MATERIAL CALL OUT WAS STEEL IS S.S. ADDED EC145 AS USED ON MODEL.	2/5/2016	RJC	SM



NOTE:

1. REF. EUROCOPTER T/N: 105-31702W19.
2. INTERNAL & EXTERNAL GEARS WERE SENT TO AMERICAN GEAR FOR GEAR INFORMATION.

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			-1	1	INTERNAL GEAR	4140/4142 Q & T		2
	X		-3	1	SPLINE SHAFT			3
	1		-5		SHAFT	4140/4142		4
	1		-7		EXTERNAL GEAR	4140/4142 Q & T		5
	1		-9		WASHER	4140/4142 Q & T		6
	1		-11		NUT	4140/4142 Q & T		7
X			-13	1	HANDEL ASSEMBLY			8
1			-15		HANDLE COLLET	SP		9
1			-17		HANDLE BASE	4140/4142 Q & T		10
3			-19		SOCKET HEAD CAP SCREW	S.S.	M6X1.0 X 10mm (MCMaster-CARR #91292A441) MODIFIED	11
2		B/O	-21		LEVER HANDLE		4" (MCMaster-CARR #6303K57)	8
ASSY -13	ASSY -3							

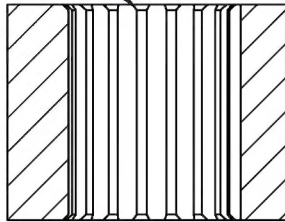


TITLE		MOUNTING TOOL	
DWG NO.	RBE105-31702W19	REV	2
MAT'L HEAT TREAT FINISH SPEC		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS ± 1/8 .XXX ± .005 .XX ± .01 .X ± .1 ANGLES ± 5° SURFACES = 125/√	
DRAWN BY:	SMITH	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
CHECKED:	CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
OPPS APPR:	ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
QA APPR:	LINDSAY	USED ON MODEL	
APPROVED:	MACKOVJAK	EC145	
SCALE	1:4	DATE	9/27/2013
		SHEET 1 OF 11	

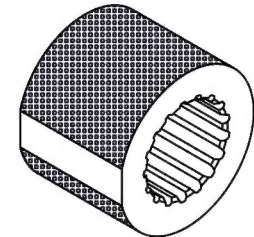
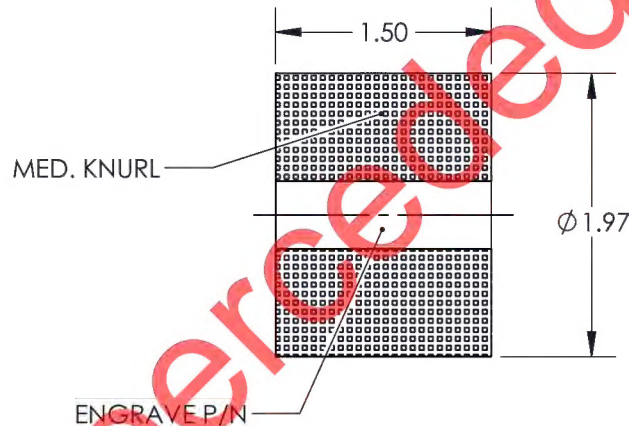
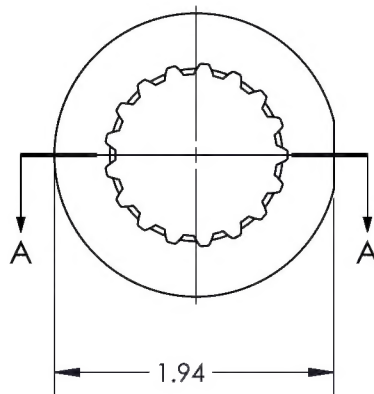
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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0065	-1 CH'D MATERIAL WAS 4140 Q&T IS 4140/4142 Q&T, CH'D FINISH WAS CAD PLATE YELLOW IS ZINC PLATE, SPEC. ASTM B633 TYPE I SC2.	2/5/2016	RJC	SM

2X .03 X 45°



SECTION A-A



INTERNAL SPLINE DIN 5480

NUMBER OF TEETH	17
MODULE	1.75
PRESSURE ANGLE	30°
BASE DIA.	25.764mm
PITCH DIA.	29.750mm
MAJOR DIA.	(Ø32.35mm -32.82mm)
MINOR DIA.	Ø28.50mm - 28.63mm
DIA. OVER 3 PINS	24.282mm
PIN DIA.	3.5mm
REF. DIA.	(Ø 32mm)

NOTE:

1. MOLD WAS SENT TO AMERICAN GEAR TO GIVE US GEAR INFORMATION TO MANUFACTURE.
2. HIDDEN LINES REMOVED FOR CLARITY.



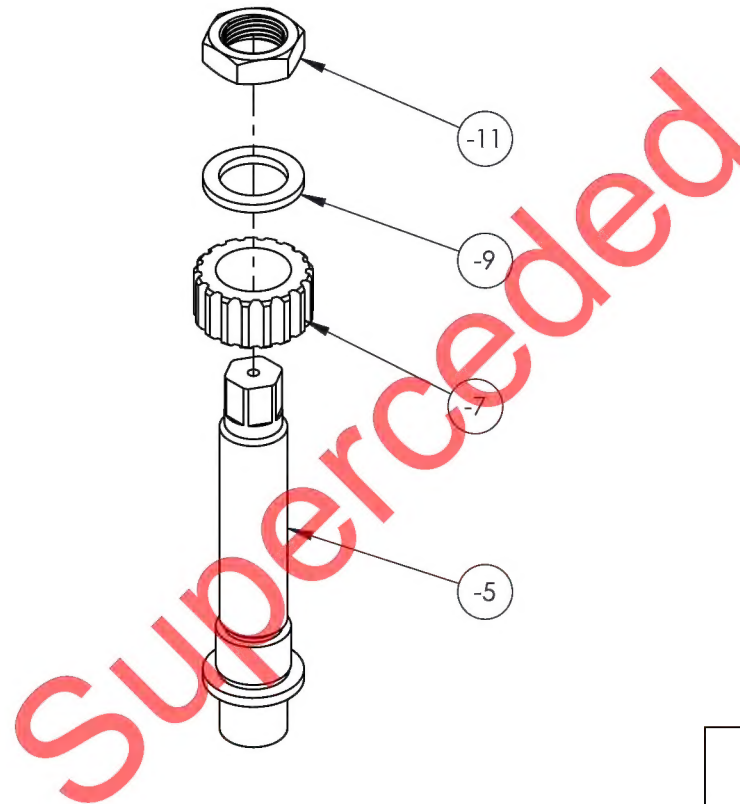
TITLE		MOUNTING TOOL	
DWG NO.		RBE105-31702W19-1	
REV		2	
MAT'L 4140/4142 Q & T		UNLESS OTHERWISE SPECIFIED	
HEAT TREAT		DIMENSIONS ARE IN INCHES	
FINISH ZINC PLATE		.XXX ± .005 FRACTIONS ± 1/8	
SPEC ASTM B633 TYPE I SC 2		.XX ± .01 ANGLES ± 5°	
DRAWN BY: CLOUGH		.X ± .1 SURFACES = 125✓	
CHECKED: CLOUGH		1. BREAK ALL SHARP EDGES	
OPPS APPR: ANDERSON		.015 x 45° OR .015R	
QA APPR: LINDSAY		2. DIMENSIONAL LIMITS APPLY	
APPROVED: MACKOVJAK		AFTER PLATING	
SCALE 3:4		3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
DATE 11/22/2013		USED ON MODEL	
SHEET 2 OF 11		EC145	

①

INTERNAL GEAR

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
				APPROVED

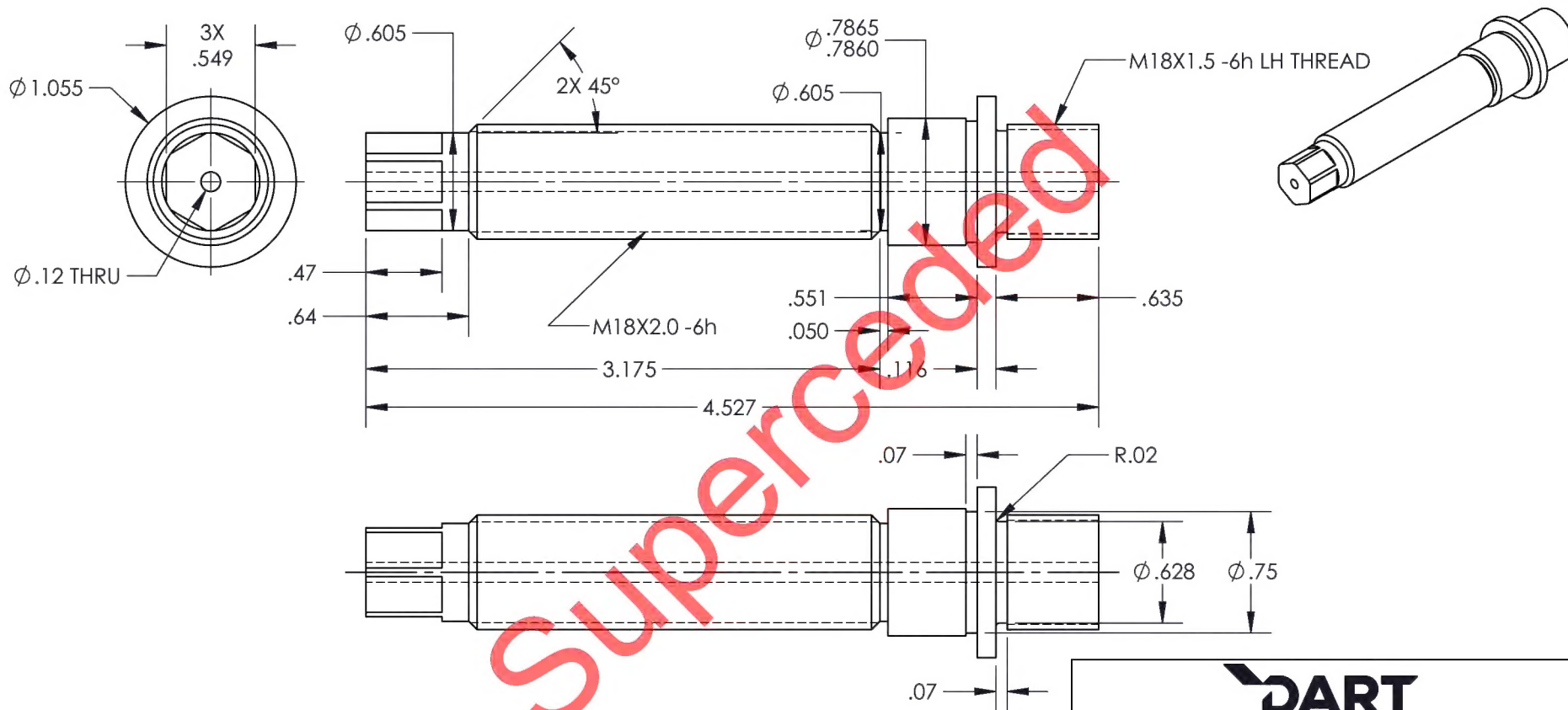


(-3)
SPLINE SHAFT

DART AEROSPACE	
TITLE MOUNTING TOOL	
DWG NO. RBE105-31702W19-3	REV 2
MAT'L TREAT FINISH	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± .5° .X ± .1 SURFACES = 125°
SPEC	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
DRAWN BY: SMITH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
CHECKED: CLOUGH	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
OPPS APPR: ANDERSON	
QA APPR: LINDSAY	USED ON MODEL
APPROVED: MACKOVJAK	EC145
SCALE 1:2	DATE 9/25/2013
SHEET 3 OF 11	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		-5 CH'D DIMS WAS 3.120 IS 3.175, WAS Ø.77 IS Ø.75, ADDED MISSING DIM .050.	4/9/2014	DPD	GE
2	16-0065	-5 CH'D MATERIAL WAS 4140 Q&T, IS 4140/4142 HEAT TREATED TO RC 48-55, CH'D FINISH WAS CAD PLATE YELLOW IS ZINC PLATE, SPEC. ASTM B633 TYPE I SC2.	2/5/2016	RJC	SM



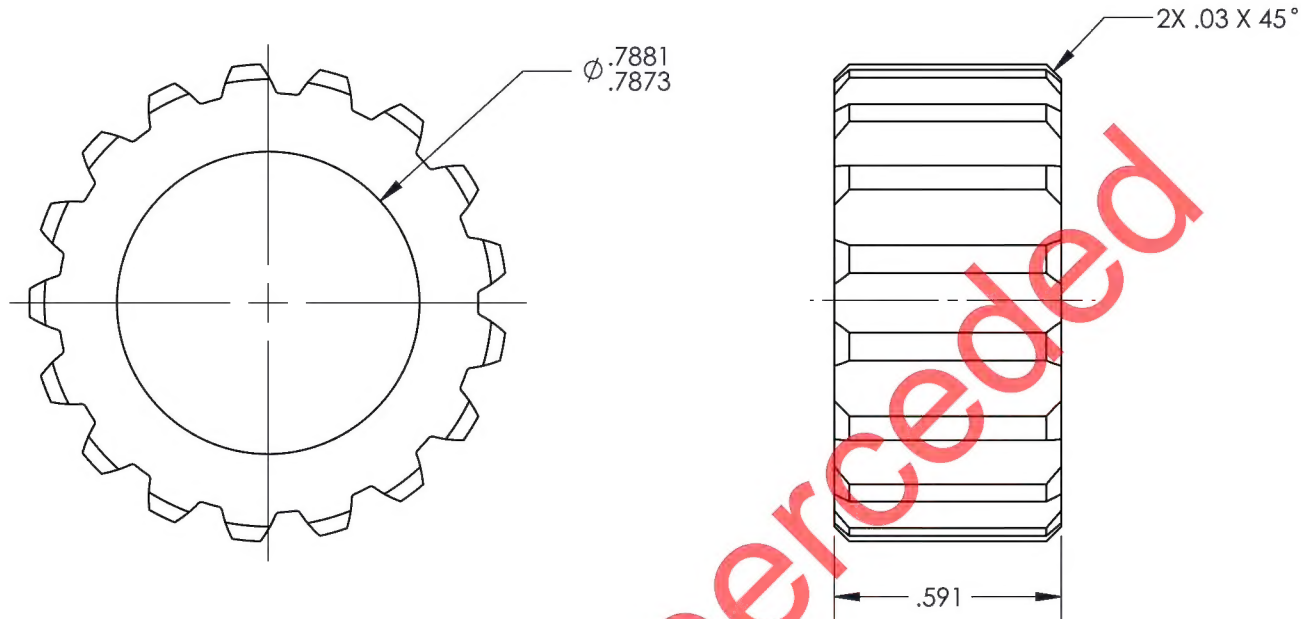
(5)

SHAFT

DART AEROSPACE	
TITLE MOUNTING TOOL	
DWG NO. RBE105-31702W19-5	REV 2
MAT'L 4140/4142 HEAT TREAT RC 48-55 FINISH ZINC PLATE SPEC ASTM B633 TYPE I SC 2	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125°
DRAWN BY: SMITH	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: ANDERSON	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: LINDSAY	USED ON MODEL
APPROVED: MACKOVJAK	EC145
SCALE 1:1	DATE 9/27/2013
SHEET 4 OF 11	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0065	-7 CH'D MATERIAL WAS 4140 Q&T, IS 4140/4142 Q&T, CH'D FINISH WAS CAD PLATE YELLOW IS ZINC PLATE, SPEC. ASTM B633 TYPE I SC2.	2/5/2016	RJC	SM



EXTERNAL SPLINE DIN 5480	
NUMBER OF TEETH	17
MODULE	1.75
PRESSURE ANGLE	30°
BASE DIA.	25.764mm
PITCH DIA.	29.750mm
MAJOR DIA.	31.49mm - 31.65mm
MINOR DIA.	(27.02mm - 27.80mm)
DIA. OVER 3 PINS	35.440mm
PIN DIA.	3.5mm
REF. DIA.	32mm

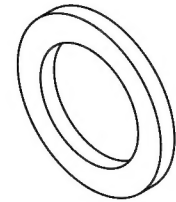
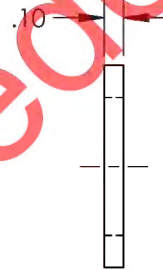
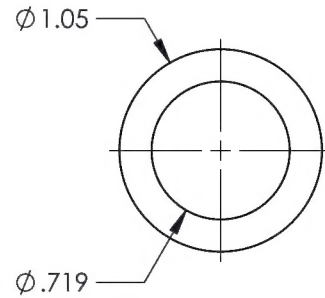
(-7)
EXTERNAL GEAR

NOTE:
1. MOLD WAS SENT TO AMERICAN GEAR TO GIVE US GEAR INFORMATION TO MANUFACTURE.
2. HIDDEN LINES REMOVED FOR CLARITY.

DART AEROSPACE	
TITLE MOUNTING TOOL	
DWG NO. RBE105-31702W19-7	REV 2
MAT'L 4140/4142 Q & T HEAT TREAT FINISH ZINC PLATE SPEC ASTM B633 TYPE I SC 2	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/✓	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
DRAWN BY: CLOUGH	USED ON MODEL
CHECKED: CLOUGH	EC145
OPPS APPR: ANDERSON	
QA APPR: LINDSAY	
APPROVED: MACKOVJAK	
SCALE 2:1	DATE 11/22/2013
SHEET 5 OF 11	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0065	-9 CH'D MATERIAL WAS 4140 IS 4140/4142 Q&T, CH'D FINISH WAS CAD PLATE YELLOW IS ZINC PLATE, SPEC. ASTM B633 TYPE I SC2.	2/5/2016	RJC	SM



Superseded

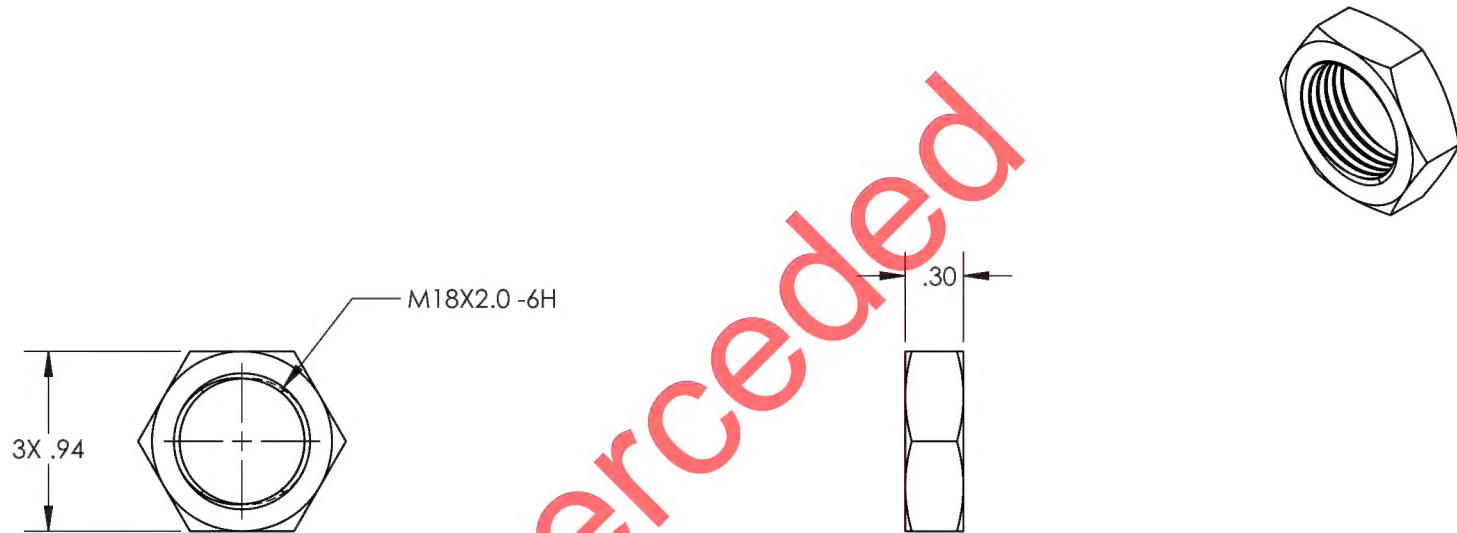
(-9)

WASHER

DART AEROSPACE	
TITLE MOUNTING TOOL	
DWG NO. RBE105-31702W19-9	REV 2
MAT'L 4140/4142 Q & T	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH ZINC PLATE	.XXX ± .005 FRACTIONS ± 1/8
SPEC ASTM B633 TYPE I SC 2	.XX ± .01 ANGLES ± 5°
	.X ± .1 SURFACES = 125°
DRAWN BY: SMITH	1. BREAK ALL SHARP EDGES
CHECKED: CLOUGH	.015 x 45° OR .015R
OPPS APPR: ANDERSON	2. DIMENSIONAL LIMITS APPLY
QA APPR: LINDSAY	AFTER PLATING
APPROVED: MACKOVJAK	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
SCALE 1:1	DATE 9/27/2013
	SHEET 6 OF 11

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0065	-11 CH'D MATERIAL WAS HEX 4140 Q&T, IS 4140/4142 Q&T, CH'D FINISH WAS CAD PLATE YELLOW IS ZINC PLATE, SPEC. ASTM B633 TYPE I SC2.	2/5/2016	RJC	SM



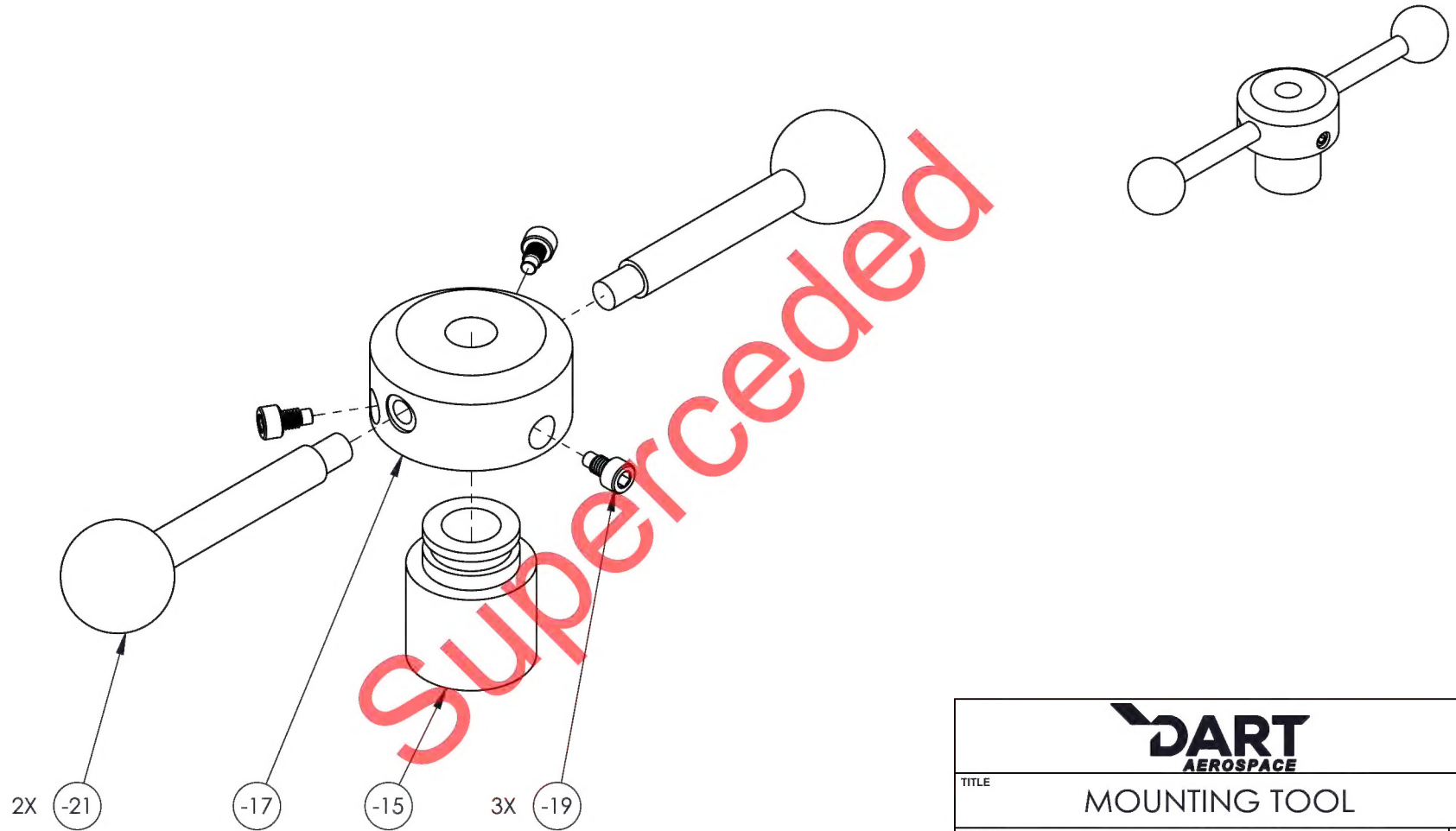
(-11)

NUT

DART AEROSPACE	
TITLE MOUNTING TOOL	
DWG NO. RBE105-31702W19-11	REV 2
MAT'L 4140/4142 Q & T	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH ZINC PLATE	.XXX ± .005 FRACTIONS ± 1/8
SPEC ASTM B633 TYPE I SC 2	.XX ± .01 ANGLES ± 5°
	.X ± .1 SURFACES = 125°
DRAWN BY: SMITH	1. BREAK ALL SHARP EDGES
CHECKED: CLOUGH	.015 x 45° OR .015R
OPPS APPR: ANDERSON	2. DIMENSIONAL LIMITS APPLY
QA APPR: LINDSAY	AFTER PLATING
APPROVED: MACKOVJAK	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
SCALE 1:1	DATE 9/26/2013
	SHEET 7 OF 11

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REVISIONS			
REV	ECR	DESCRIPTION	DATE

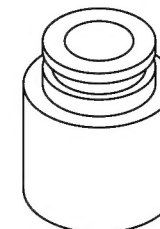
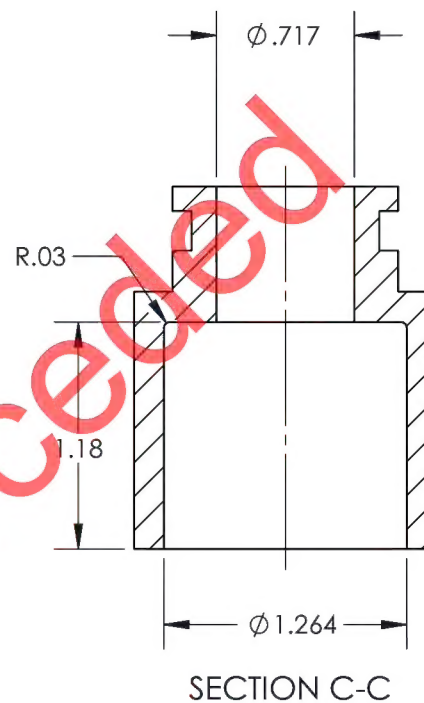
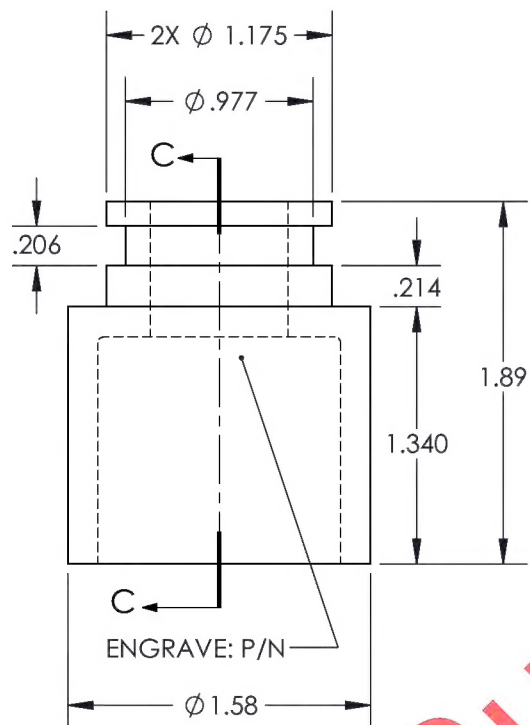


(-13)
HANDEL ASSEMBLY

DART AEROSPACE	
TITLE MOUNTING TOOL	
DWG NO. RBE105-31702W19-13	REV 2
MAT'L TREAT FINISH	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± .5° .X ± .1 SURFACES = 125°
SPEC	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
DRAWN BY: SMITH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
CHECKED: CLOUGH	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
OPPS APPR: ANDERSON	
QA APPR: LINDSAY	USED ON MODEL
APPROVED: MACKOVJAK	EC145
SCALE 1:2	DATE 9/25/2013
SHEET 8 OF 11	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0065	-15 CH'D FINISH WAS CAD PLATE YELLOW IS ZINC PLATE, SPEC. ASTM B633 TYPE I SC2.	2/5/2016	RJC	SM



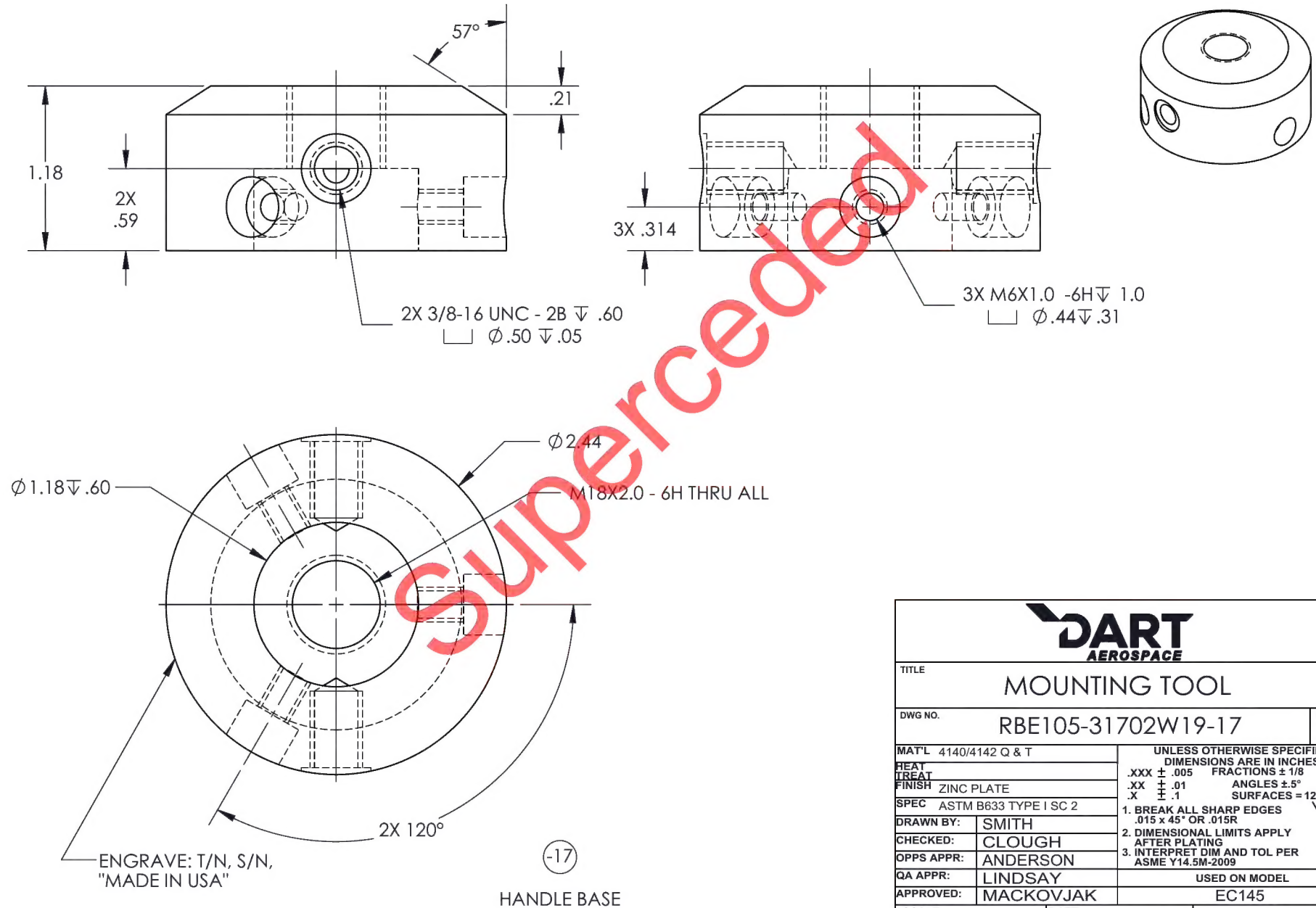
(-15)

HANDLE COLLET

DART AEROSPACE	
TITLE MOUNTING TOOL	
DWG NO. RBE105-31702W19-15	REV 2
MAT'L SP ZINC PLATE	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125°
SPEC ASTM B633 TYPE I SC 2	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
DRAWN BY: SMITH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
CHECKED: CLOUGH	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
OPPS APPR: ANDERSON	USED ON MODEL
QA APPR: LINDSAY	EC145
APPROVED: MACKOVJAK	
SCALE 1:1	DATE 9/25/2013
SHEET 9 OF 11	

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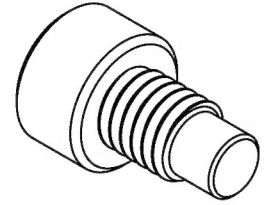
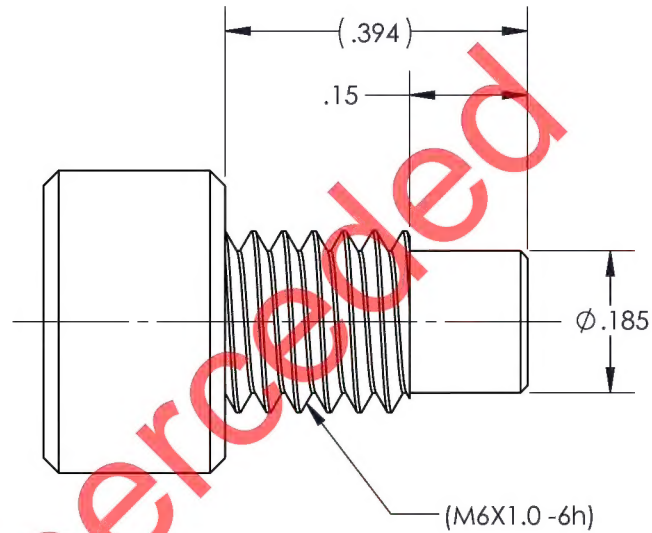
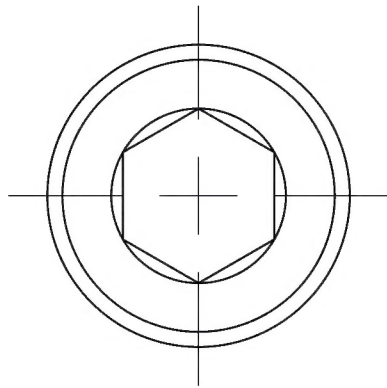
REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0065	-17 CH'D MATERIAL WAS 4140 Q&T IS 4140/4142 Q&T, CH'D FINISH WAS CAD PLATE YELLOW IS ZINC PLATE, SPEC. ASTM B633 TYPE I SC2.	2/5/2016	RJC	SM



DART AEROSPACE			
TITLE MOUNTING TOOL			
DWG NO. RBE105-31702W19-17			REV 2
MAT'L 4140/4142 Q & T		UNLESS OTHERWISE SPECIFIED	
HEAT TREAT		DIMENSIONS ARE IN INCHES	
FINISH ZINC PLATE		.XXX ± .005 FRACTIONS ± 1/8	
SPEC ASTM B633 TYPE I SC 2		.XX ± .01 ANGLES ± .5°	
DRAWN BY: SMITH		.X ± .1 SURFACES = 125°	
CHECKED: CLOUGH		1. BREAK ALL SHARP EDGES	
OPPS APPR: ANDERSON		.015 x 45° OR .015R	
QA APPR: LINDSAY		2. DIMENSIONAL LIMITS APPLY	
APPROVED: MACKOVJAK		AFTER PLATING	
SCALE 1:1		3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
DATE 9/25/2013		USED ON MODEL	
SHEET 10 OF 11		EC145	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
2	16-0065	-19 CORRECTED MATERIAL CALL OUT WAS STEEL IS S.S.	2/5/2016	RJC	SM



NOTE:
HIDDEN LINES REMOVED FOR CLARITY.

(-19)

SOCKET HEAD CAP SCREW

DART AEROSPACE	
TITLE MOUNTING TOOL	
DWG NO. RBE105-31702W19-19	REV 2
MAT'L S.S.	UNLESS OTHERWISE SPECIFIED
HEAT TREAT	DIMENSIONS ARE IN INCHES
FINISH	.XXX ± .005 FRACTIONS ± 1/8
SPEC	.XX ± .01 ANGLES ± 5°
	.X ± .1 SURFACES = 125°
DRAWN BY: SMITH	1. BREAK ALL SHARP EDGES
CHECKED: CLOUGH	.015 x 45° OR .015R
OPPS APPR: ANDERSON	2. DIMENSIONAL LIMITS APPLY
QA APPR: LINDSAY	AFTER PLATING
APPROVED: MACKOVJAK	3. INTERPRET DIM AND TOL PER
	ASME Y14.5M-2009
SCALE 4:1	DATE 9/26/2013
	SHEET 11 OF 11